



UNITED STATES PATENT AND TRADEMARK OFFICE

54
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,046	02/20/2002	Linfeng Chen	61765A	6754

35503 7590 02/27/2004

UNION CARBIDE CHEMICALS AND PLASTICDS TECHNOLOGY
CORPORATION
P.O. BOX 1967
MIDLAND, MI 48674

EXAMINER

LU, C CAIXIA

ART UNIT PAPER NUMBER

1713

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,046

Applicant(s)

CHEN ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) 1-14 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/22/02</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to a process of making catalyst, classified in class 502, subclass 104.
 - II. Claims 11 and 12, drawn to a catalyst composition, classified in class 502, subclass 116.
 - III. Claim 13, drawn to a polymerization process, classified in class 526, subclass 24.9.
 - IV. Claim 14, drawn to olefin polymer, classified in class 526, subclass 348.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the procatalyst can be prepared by a process wherein the extraction is not required.

3. Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the

Art Unit: 1713

polymerization can be performed with a Ziegler-Natta catalyst which is different from those of the instant claims.

4. Inventions I-III, I-IV and II-IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, (i) the process of making catalyst of Group I and the process of polymerization of Group III are different processes and they can not performed together, and (ii) the olefin polymer of group IV has different function from the catalyst of Group II and the method of making catalyst of Group I.

5. Inventions III and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the olefin polymer can be prepared by a different Ziegler-Natta catalyst.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and the search required for one of the groups is not required for the rest of the groups, restriction for examination purposes as indicated is proper.

Art Unit: 1713

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Attorney Douglas Deline on February 18, 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, 3, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Job (US 5,066,737).

Job's Illustrative Embodiment II teaches use warm chlorobenzene to wash a procatalyst. Job's teaching reads on the instant claims.

Art Unit: 1713

13. Claims 1, 4-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedrich et al. (US 5,773,535) and Masino (US 5,126,302).

Friedrich's Example 1 teaches extraction of a procatalyst with 10% titanium tetrachloride in ethylbenzene at 125°C for 3 hrs. Friedrich's teaching reads on the instant claims.

Masino's preparation of Catalyst A of Example 1, similar to Friedrich's teaching, reads on the instant claims.

14. Claims 1, 4, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishimaru et al. (US 4,990,479).

Ishimaru's Example 1 teaches treating a procatalyst with titanium tetrachloride to provide a solid, then extracting the solid with decane at 110°C. Ishimaru's teaching reads on the instant claims.

15. Claims 1, 4, 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kioka et al. (US 5,028,671).

Kioka's Example teaches treating a procatalyst with titanium tetrachloride to provide a solid, then extracting the solid with decane at 110°C and hexane until no free titanium compound was detected. Kioka's teaching reads on the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The

Application/Control Number: 10/080,046

Page 6

Art Unit: 1713

fax numbers for the organization where this application or proceeding is assigned is
(703 872-9306.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (571) 272-
0994.

A handwritten signature in black ink, appearing to read 'Caixia Lu', is positioned above the printed name.

Caixia Lu, Ph. D.
Primary Examiner
Art Unit 1713